

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 1602

Roll No.

--	--	--	--	--	--	--	--	--	--

B.Tech.

(SEM II) EVEN SEMESTER THEORY EXAMINATION, 2009-2010

COMPUTER CONCEPTS & PROGRAMMING IN C*Time : 3 Hours**Total Marks : 100***Section-A**

This question contains 10 questions of multiple choice. Attempt all parts of this (10x2=20) section :

1. (a) C is a :

- (i) High Level Language
- (ii) Low Level Language
- (iii) High Level Language with some low level features.
- (iv) Low Level Language with high level features.

(b) Windows Xp is a :

- (i) Multi user multi tasking OS
- (ii) Multi user single tasking
- (iii) Single user multi tasking
- (iv) Single user single tasking

(c) The purpose of the following program fragment :

`b=s+b;``s=b-s;``b=b-s;`

where s, b are two integers is to :

- (i) Transfer the content of s to b
- (ii) Transfer the content of b to s
- (iii) Negate the content of s and b
- (iv) Swap the contents of s and b

(d) Consider the function

```
Find(int x, int y)
```

```
{ return ((x<y)?0:(x-y));}
```

let a, b be two non negative integers. The call find (a, find(a,b)) can be used to find the :

- (i) Maximum of a, b
- (ii) Postive difference of a, b
- (iii) Sum of a, b
- (iv) Minimum of a, b

(e) The maximum value of a signed integer is :

- (i) $2^{16}-1$
- (ii) $2^{15}-1$
- (iii) 2^{16}
- (iv) 2^{15}

(f) The value of an automatic variable that is declared but not initialized will be :

- (i) 0
- (ii) Unpredictable
- (iii) -1
- (iv) None of these

(g) If n=3 then the output of the statement `printf("%d %d", n++, ++n);` will be :

- (i) 3 5
- (ii) 4 5
- (iii) 4 4
- (iv) is implementation dependent

(h) The following program fragment

```
for(i=3;i<15;i=i+3);
```

```
printf("%d",i);
```

results in

- (i) A syntax error
- (ii) An execution error
- (iii) Printing of 12
- (iv) Printing of 15

(i) 2s complement of $(5)_{10}$ will be .

- (i) 5
- (ii) 6
- (iii) -5
- (iv) Not possible

(j) Select the odd man out :

- (i) Integer
- (ii) Structure
- (iii) Union
- (iv) Array

Section-B

Note : Attempt any *three* questions. All questions carry *equal* marks : (3x10=30)

2. (a) (i) Differentiate between DOS, UNIX and Windows Operation System.

(ii) Explain the following UNIX command.

ls, chmod, sh, su, who.

(b) Explain the various data types in C giving suitable examples of each.

(c) Convert the following numbers as specified

(i) $(1011011101.01101)_2 = (?)_{10}$

(ii) $(3142.28)_{10} = (?)_2$

(iii) $(110111101010.01101)_2 = (?)_{16}$

(iv) 2s complement of 110100100

(v) $(AC01.2DB)_2 = (?)_8$

(d) Write a program in C to copy the content of a given file say "a.txt" to another file "b.txt".

(e) Differentiate between call by value and call by reference. Make a program in C to show the usage of both.

Section-C

Note : Attempt any two parts from each question. All questions are *compulsory* :

(5x10=50)

3.
 - (a) Write a program in C to find whether the given number is prime or not.
 - (b) Write a program in C to find out second largest element of a given list of integers.
 - (c) Write a program in C to sort the given list of names.

4.
 - (a) Define the storage class in C.
 - (b) What are the merits and demerits of static and dynamic memory allocation techniques ?
 - (c) What are the different bit operators used in C ? Give an example of each.

5.
 - (a) Simulate calculator using switch statement.
 - (b) Implement Stack using Linked List.
 - (c) Write a program in C to multiply two matrices. Take the size and element of matrix through keyboard.

6.
 - (a) Show the usage of break and continue statement by taking an example.
 - (b) Write an algorithm to sort the given list of integers.
 - (c) Discuss the usage of macro in C.

7.
 - (a) What is the use of header file ? Discuss.
 - (b) Write a program to show the usage of structure in C.
 - (c) Write a program in C to find the factorial of a given number by recursion.

- o O o -